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DOCKET No. P05411 (formerly P05441)  
U.S. SERIAL No. 10/797,478  
PATENT

**REMARKS**

Claims 1-28 were pending in this application, and were each rejected.

Claims 1-28 remain pending in this application.

Reconsideration and full allowance of Claims 1-28 are respectfully requested.

The attorney docket number is amended above to "P05411" instead of the current "P05441". Entry of this change is requested.

**II. REJECTION UNDER 35 U.S.C. § 103**

The Office Action rejects Claims 1-10 and 15-24 under 35 U.S.C. § 103(a) as being unpatentable over Admitted Prior Art ("APA") in view of U.S. Patent No. 6,289,055 to Knotz ("Knotz"). The Office Action rejects Claims 11-14 and 25-28 under 35 U.S.C. § 103(a) as being unpatentable over APA and Knotz in further view of U.S. Patent No. 6,542,013 to Volk et al. ("Volk"). These rejections are respectfully traversed.

In *ex parte* examination of patent applications, the Patent Office bears the burden of establishing a *prima facie* case of obviousness. (*MPEP* § 2142; *In re Fritch*, 972 F.2d 1260, 1262, 23 U.S.P.Q.2d 1780, 1783 (Fed. Cir. 1992)). The initial burden of establishing a *prima facie* basis to deny patentability to a claimed invention is always upon the Patent Office. (*MPEP* § 2142; *In re Oetiker*, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992); *In re Piasecki*, 745 F.2d 1468, 1472, 223 U.S.P.Q. 785, 788 (Fed. Cir. 1984)). Only when a *prima facie* case of obviousness is established does the burden shift to the Applicant to produce evidence of nonobviousness. (*MPEP* § 2142; *In re Oetiker*, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d

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1443, 1444 (*Fed. Cir. 1992*); *In re Rijckaert*, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (*Fed. Cir. 1993*)). If the Patent Office does not produce a *prima facie* case of unpatentability, then without more the Applicant is entitled to grant of a patent. (*In re Oetiker*, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (*Fed. Cir. 1992*); *In re Grabiak*, 769 F.2d 729, 733, 226 U.S.P.Q. 870, 873 (*Fed. Cir. 1985*)).

A *prima facie* case of obviousness is established when the teachings of the prior art itself suggest the claimed subject matter to a person of ordinary skill in the art. (*In re Bell*, 991 F.2d 781, 783, 26 U.S.P.Q.2d 1529, 1531 (*Fed. Cir. 1993*)). To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed invention and the reasonable expectation of success must both be found in the prior art, and not based on the Applicant's disclosure. (*MPEP* § 2142).

APA recites a circuit having a reference clock counter 22, a high frequency clock counter 24, and a single comparator 27. (*Application, Figure 2*). The Office Action acknowledges that APA fails to disclose "at least two comparators," each of which is operative "to compare [a] pulse count with a respective given threshold value and to output a corresponding indication of frequency deviation" as recited in Claims 1 and 15. (*Office Action, Page 2, Last paragraph*). The Office Action then asserts that *Knotz* discloses these elements of Claims 1 and 15 and that it

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would be obvious to modify *APA* with *Knotz*. (*Office Action, Page 3, Third and fourth paragraphs*).

*Knotz* recites a system for simultaneously transmitting multiple digital signals over a single lead. (*Abstract*). The digital signals  $S_{11}$ ,  $S_{12}$ , ...,  $S_{1N}$  are summed in a transmitter 1 to produce a multilevel signal  $m$ . (*Figure 1; Col. 3, Lines 12-16*). The multilevel signal  $m$  is then sent to a receiver 3, which compares the multilevel signal  $m$  to multiple reference voltages  $V_1$ ,  $V_2$ , ...,  $V_N$  using comparators 31-3n. (*Col. 3, Lines 24-32*). The outputs of the comparators 31-3n represent "digital transmission signals"  $S_{31}$ ,  $S_{32}$ , ...,  $S_{3N}$ . (*Col. 3, Lines 24-32*). Additional logic may then be used to help recover the original digital signals. (*Col. 3, Line 35 – Col. 7, Line 44*).

First, each of the comparators 31-3n of *Knotz* simply generates an output by comparing a voltage of the multilevel signal  $m$  to a reference voltage. However, the outputs of the comparators 31-3n in no way represent an "indication of frequency deviation." As clearly shown in Figure 3 of *Knotz*, the different reference voltages of *Knotz* simply represent possible voltage levels within the multilevel signal  $m$ . The different reference voltages of *Knotz* are not used in any way to indicate a "frequency deviation" of a signal. As a result, *Knotz* fails to disclose, teach, or suggest "at least two comparators," each of which is operative "to compare [a] pulse count with a respective given threshold value and to output a corresponding indication of frequency deviation" as recited in Claims 1 and 15.

Second, the comparators 31-3n of *Knotz* are used for a purpose completely unrelated to any function of *APA*. The comparators 31-3n of *Knotz* are specifically used to allow multiple

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digital signals to be summed and transmitted over a single lead. The comparators 31-3n of *Knotz* must be used in order for the multiple digital signals to be recovered from the multilevel signal *m* at the receiver 3. This functionality is not needed in *APA* in any way. The high frequency clock counter 24 of *APA* outputs a single value to the comparator 27. *APA* never recites that the high frequency clock counter 24 needs to simultaneously output multiple values over a single lead. As a result, there is no need to incorporate the comparators 31-3n of *Knotz* into the system of *APA*.

The Examiner's response indicates that the Examiner misunderstands the teachings of *Knotz*. *Knotz* clearly teaches that

For amplitude filtering in the receiver unit 3, one comparator 31, 32, . . . 3n is provided for each of the digital transmission signals  $s_{11}, s_{12} \dots s_{1n}$  respectively to compare the multilevel signal *m* with in each case one signal threshold  $V_1, V_2, \dots V_n$  respectively between two adjacent logical signal levels of the multilevel signal *m*, and to supply as comparison result the digital received signal  $s_{31}, s_{32}, \dots s_{3n}$  corresponding to the respective digital transmission signal  $s_{11}, s_{12} \dots s_{1n}$ . (col. 3, lines 24-32)

As can be seen, the signals  $s_{31}, s_{32}, \dots s_{3n}$  are the result of an amplitude filtering – also illustrated clearly in *Knotz* Figure 3 – and have nothing to do with an “indication of frequency deviation.” Applicant is mystified as to why the Examiner insists otherwise, without any support at all in *Knotz*.

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The Examiner also states, incorrectly and without basis, that "figure 3 of Knotz clearly indicates a frequency that a reference signal (i.e., signal m) is above a first threshold V1 (i.e. signal S31) and a frequency that a reference signal is above a second threshold V2 (i.e. signal SC'). Therefore, the outputs of the comparators indicate changes of the frequency of the input signal with respect to predetermined values V1 and V2" (page 6, second paragraph of final Office Action). Signal m is amplitude filtered, and the voltage thresholds are not at all compared with the frequency of signal m. Applicant assumes that the Examiner is confusing amplitude and frequency in *Knotz*'s teachings. The Examiner is cordially requested to clarify this reasoning before appeal.

The "motivation" alleged by the Examiner is "since it would provide different readings in at the same moment" (page 3, second paragraph of final Office Action). The Examiner acknowledges that "[t]he combination of prior arts is based on general knowledge, and not based on Applicant's disclosure" (page 6, first paragraph). Clearly, there is also no such motivation taught in *Knotz*.

The motivation to combine or modify must be specific to the actual teachings sought to be combined. "In holding an invention obvious in view of a combination of references, there must be some suggestion, motivation, or teaching in the prior art that would have led a person of ordinary skill in the art to select the references and combine them in the way that would produce the claimed invention." (*Karsten Mfg. Corp. v. Cleveland Golf Co.*, 242 F.3d 1376, 1385 (Fed. Cir. 2001) emphasis added). "When the references are in the same field as that of the applicant's invention, knowledge thereof is presumed. However, the test of whether it would have been

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obvious to select specific teachings and combine them as did the applicant must still be met by identification of some suggestion, teaching, or motivation in the prior art, arising from what the prior art would have taught a person of ordinary skill in the field of the invention." (*In re Dance*, 160 F.3d 1339, 1343 (Fed. Cir. 1998), emphasis added).

The Examiner seeks to combine the references by combining *Knotz*'s dual-comparator amplitude filter and use it in the circuit as disclosed in *APA*. Nothing in the cited art, or in the knowledge of those of skill in the art, suggests that adding an amplitude filter to the *APA* circuit would have any utility whatsoever. Nothing of "general knowledge", as alleged by the Examiner, would suggest looking to *Knotz*'s amplitude filter for any purpose in the *APA* circuit.

The Examiner's allegation of "general knowledge" has been traversed. MPEP 2144.03 provides that if Applicant challenges a factual assertion as not properly officially noticed or not properly based upon common knowledge, the Examiner must support the finding with adequate evidence. The Examiner is therefore respectfully requested to support his allegation with documentary evidence, as required, and to do so before putting Applicant to the cost of an appeal.

For these reasons, the Office Action does not establish a *prima facie* case of obviousness against Claims 1 and 15 (and their dependent claims). Accordingly, the Applicant respectfully requests withdrawal of the § 103 rejections and full allowance of Claims 1-28.

### III. CONCLUSION

The Applicant respectfully asserts that all pending claims in this application are in condition for allowance and respectfully requests full allowance of the claims.

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**SUMMARY**

If any issues arise, or if the Examiner has any suggestions for expediting allowance of this application, the Applicant respectfully invites the Examiner to contact the undersigned at the telephone number indicated below or at [wmunck@davismunck.com](mailto:wmunck@davismunck.com).


The Commissioner is authorized to charge any fees connected with this communication (including any extension of time fees) or credit any overpayment to Davis Munck Deposit Account No. 50-0208.

Respectfully submitted,

DAVIS MUNCK, P.C.

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